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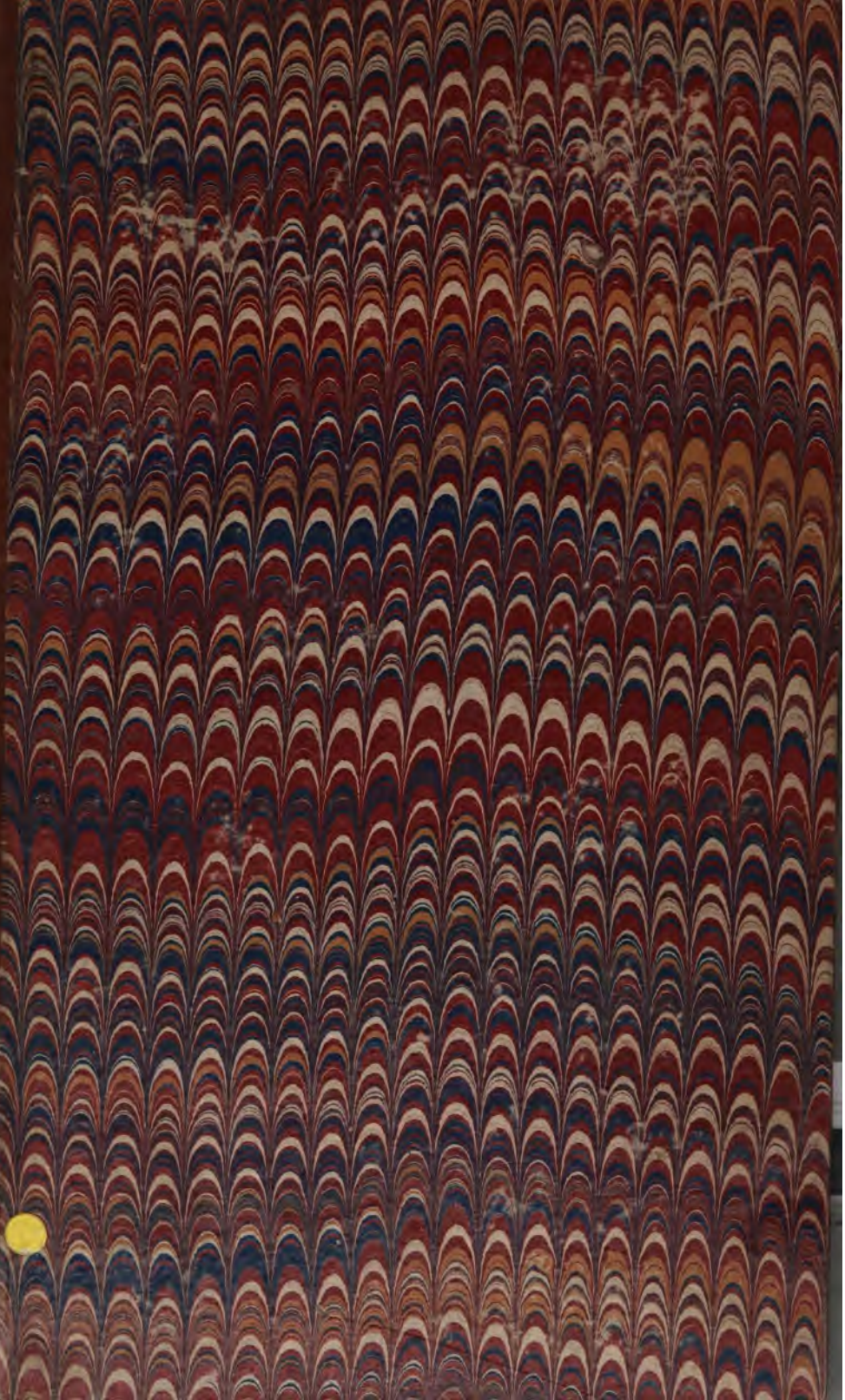
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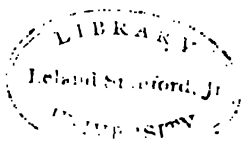
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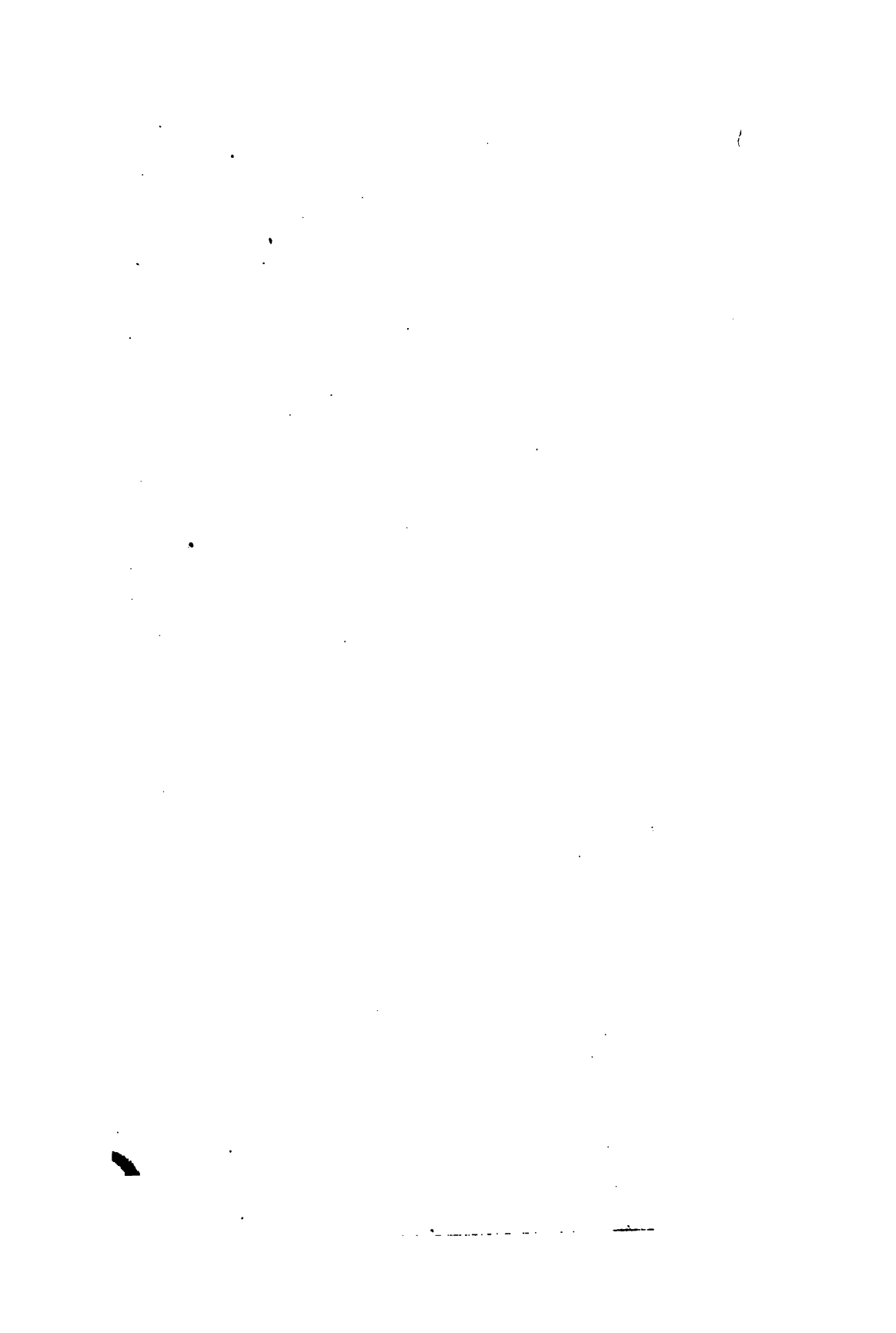
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J. C. Branner *can.*
REPORT

ON THE PROPERTY OF THE

Mineral Exploration and Mining Association

OF

NOVA SCOTIA,

BY

HENRY YOULE HIND, M.A.,
==

(Geologist to the Canadian Red River Expedition of 1857.—In charge of the Assiniboine and Saskatchewan Expedition of 1858.—Author of Narrative of the Canadian Expeditions to the North West.—Explorations in the Interior of the Labrador Peninsula.—Report on the Geology of New Brunswick, &c.—Reports on Waverley, Sherbrooke, Mount Uniacke, Oldham and Renfrew Gold Districts, &c.)

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To the President and Directors of the Mineral Exploration and Mining Association of Nova Scotia.

GENTLEMEN,—

I have much pleasure in presenting you with the following Report on the property belonging to your Association in the County of Cumberland.

The details and conclusions embodied in the following pages are the result of observations extending almost continuously from August 1871 to the present time.

The record of these observations is to be found in the Plans and Sections accompanying this report, and these are supplemented by field maps containing in special detail the character of the rocks, for the sake of future comparison when required:

While carefully guarding myself from taking too hopeful a view of the prospects presented by your property, I am convinced that it will eventually satisfy the most sanguine.

Out of the large area of twenty-eight square miles, not less than twenty-four are likely, according to our present knowledge, to prove valuable.

But, as in almost all known Coal Measures, we have to contend with disturbances, sometimes quite impossible to discover at the surface; a too great reliance on the present favourable appearances should not be placed.

This caution may appear unnecessary in view of the fact that one-half, or even one-fourth of the property owned by the Association, underlaid by workable seams of coal, would, with the present and the contemplated means of communication by rail with the seaboard, constitute a mining property of unusual extent and value.

I have the honour to be,

Your obedient servant,

HENRY Y. HIND.

Windsor, December 3rd, 1872.

REPORT.

1. THE PROPERTY.

The property owned by your Association comprehends twenty-eight square miles of the Cumberland Coal Field, in the County of Cumberland, N. S.

The entire area of the Cumberland field probably exceeds two hundred and seventy square miles, but there is good reason to suppose that two if not more separate basins exist, and it is in the most easterly of these—in the so called Spring Hill District,—that the property of the Association lies.

An enumeration of the Licenses to Work, and of the Rights of Search now owned by the Association, is given in the appendix to this Report.

Each License to work and each Right of Search covers an area of one square mile, but the right to search for, and to select nineteen square miles in the aggregate, extends over an area of thirty-two square miles within the limits of the Spring Hill Basin, and the adjoining Basin of Black River.

In an area so extensive, and generally in a wilderness condition, the problem which presents itself is to ascertain the outcrop of the seams when they reach the surface, and when dislocations supervene, the probable depth at which the seams may be found.

At the commencement of the survey, of which this report gives a brief description, no available information was accessible respecting the distribution of the seams of coal in the Spring Hill District outside of the General Mining Association's tract, the Macfarlane areas, and the Hibbard areas. In these areas extensive explorations had been prosecuted for

some years, at considerable cost and with satisfactory results, but to the south and south-west of the General Mining Association's tract, the expenditure of large sums of money, extended over several years, had been attended with nothing more than negative results.

II. THE SPRING HILL SEAMS.

The following seams have been found on the Macfarlane area, now the Spring Hill Coal Mining Company, and are thus enumerated in the official report of the Director of the Geological Survey of the Dominion.

"The evidence, so far as it goes, appears to show that in a distance of about eight hundred yards, horizontal measurement, across the strike of the measures, there are eight seams of workable thickness as under, in ascending order.

No. 1.....	13 feet 6 inches.	
" 2.....	6 " 0 "	
" 3.....	2 " 4 "	
" 4.....	12 " 3 "	
" 5.....	2 " 6 "	
" 6 a crop, thickness uncertain...		
" 7.....	4 " 0 "	Shaly coal.
" 8.....	2 " 0 "	

Total coal.....42 feet 7 inches.

The average dip is supposed to be about 30°, which would give a vertical thickness of measures from the 13 feet 6 inch seam to the 2 feet seam of about 1200 feet."

One would suppose that seams of such magnitude could easily be found by boring to the westward of their present known crop, if no disturbances had taken place; but, in consequence of the great depth of surface, consisting of drift clays and gravels, which is from five to forty feet deep, the difficulties of exploration are very considerable.

Last year I ascertained that notwithstanding numerous boring operations which had been continued for several years south west of the General Mining Association's property, none of the seams before enumerated had been found beyond a certain point near the middle of the south west boundary of that area. The result of these borings appears to show that the seams must be sought further to the south west than

the position occupied by the present south westerly boreholes, and this view is in conformity with what is known of the geological structure of the country.*

III. GEOLOGICAL SURVEY.

After a careful study of the facts I was enabled to collect, it appeared to me, that the proper method to ascertain the probable out-crop of the seams on the property of the Association was, in the first instance, to make a preliminary geological survey of the Coal Basin itself, in order to ascertain, if possible,—

1st. The limits within which it was probable the seams would come to the surface.

2nd. To find the extent and character of the disturbances which had removed the original crop of the coal.

3rd. By an examination of all exposed rocks in the rivers and brooks to endeavour to discover traces of the crop of the seams.

With this view I have made a cursory geological survey of the eastern portion of the Cumberland field, which comprehends the property of the Association.

The result seems to confirm the supposition that there are really, in this eastern portion of the Cumberland field, two separate and, perhaps, wholly distinct Basins, one being the Spring Hill Basin, the other the Black River Basin. Whether the last named is of the same horizon as the Joggins seams is not determined, although the evidence in support of this view is strong. Some of the details which lead to this conclusion are exhibited on the large plan, and have been obtained by following and mapping the courses of the rivers and brooks, ascertaining the correct position of the

* Since this Report was in type the newspapers announce the discovery by boring, of a large seam of coal on the property of Messrs. Jones and Livesey, and one mile and five-eighths south west of the last known outcrop of the Spring Hill seams. This will probably be one of the group, either the main seam or the thirteen feet seam, and, according to the geological structure of the country, its crop will pursue a course down the valley of the Macan inside of the dotted line shown on the plan.

rock exposures, and indicating that position, together with the direction and angle of dip.

This work necessarily involved a considerable topographical survey, including all roads, rivers and their affluents. Such a survey was absolutely necessary, owing to the want of a correct map of that part of the county. The only available map was a copy of the one in the Mines Department, which does not contain many of the brooks examined, and which professes only to exhibit, approximately, the positions of the main rivers and the thoroughfares.

It is obvious that when the geographical outlines of a district are incorrect and imperfect, it is utterly impossible to give accurate geological details, and particularly when these details involve the location of seams of coal.

The plan accompanying this report is on a scale of 20 chains to the inch. It is reduced from another field plan in separate sheets drawn to a scale of 10 chains to the inch, on which the character of the rock at each place of observation is noted; so that by comparing similar rocks at distant points, a correct idea of the Basin may be formed, and the places indicated where coal may be sought for with a reasonable prospect of success.

IV. DIVISIONS OF THE PROPERTY.

It will be convenient to divide the property of the Association into four groups. These are :

1st.	The Upper Macan areas	9	in number.
2nd.	The East Brook areas..	3	"
3rd.	The Intercolonial areas.	4	"
4th.	The Black River areas..	11	"
	One area on Block 22.....	1	"

Total..... 28 square miles.

THE UPPER MACAN AREAS.

The results of the survey appear to show that from the Macan Mountain Road westward, the structure of the basin is regular down the valley of the Macan River as far as the neighbourhood of West Brook, and the uniform direction of the dip for some miles, is north-westerly, at low angles. Towards Southampton, at the junction of West Brook with the

Macan, the dips begin to point more to the north and north east, while down the main Macan towards Athol, the dips have an easterly trend. This conformation indicates a basin or trough shaped form.

The Association possesses, in the valley of the Macan, the following properties :—

1. One Right of Search on Block 62.
2. One Right of Search on Block 63.
3. Two Rights of Search on Block 64.
4. Two Rights of Search on Block 65.
5. One Right of Search on Block 66.
6. One License to work on Block 65.
7. One License to work on Block 56.

Total in the Valley of the Macan :

Seven Rights of Search,
Two Licenses to work.
In all—Nine square miles.

The view above expressed, namely : That the Spring Hill seams will be found in their continuation throughout the valley of the Upper Macan, (always assuming the absence of dislocations, of which no evidence has been discovered except near the head waters), is further sustained by the results of borings made during the present year under the direction of Messrs. Livesey and Jones. These borings, by the negative evidence they afford of the absence of coal to the north west, appear to show that the crops of the seams lie to the south west, and being necessarily in conformity with the strata will, very probably, be found in the valley of the Upper Macan.*

West of the road leading from the General Mining Association's tract—southerly—a group of seams (the Hibbard group) is found, having a trend considerable more to the south than the group (the Macfarlane group) on the east side of a fault, and enumerated on page 8.

The tendency of the explorations which have been made in this vicinity is to show that the Hibbard group and the Macfarlane group are identical, but broken by a north-westerly and south-easterly fault. The Hibbard group will sweep round the south west extremity of the Anticlinal hereafter

* See foot note page 9, announcing the discovery of the seams.

noticed, form a deep sinus in the valley of Black River, and thence pursue a course down the Upper Macan.

This appears to be the true theoretical course of the coal, and apart from the disturbances which are to be met with in all coal measures, the tendency of the results of the explorations which have been made by boring and otherwise, coupled with the observed structure of the country, is strongly suggestive of the out-crop of the seams being found in this valley, and it confers considerable value on this portion of the Association's property.

The surveyed line of the Spring Hill and Parsboro' Railway passes through the Association's License to work on Block 65 ; and on this block the Association possesses two additional Rights of Search, in all, three square miles—15 miles from Parsboro' by the surveyed line. The course of the Railway continues through Block 64, on which the Association has also two Rights of Search. It then passes into Block 60, on which the Association has one Right of Search. Leaving Block 60 it enters the Association's License to work on the Etta Road, through the entire length of which it passes. Hence, this important line of communication, as at present surveyed, intersects no less than five square miles of the Association's property in this valley, and is within half a mile of the boundary of two other areas, one being a License to work on Block 69, the other a Right of Search on Block 50, adjoining the General Mining Association's area.

With these facts in view the Upper Macan portion of the property may justly be regarded as of very considerable importance, for not only is the discovery of workable seams probable, but in the event of such discovery, the means of moving the coal to market with great facility and cheapness is secured.

THE EAST BROOK AREAS.

These consist of two Licenses to work on Blocks 58 and 69. and one Right of Search on Block 50. The Licenses to work lie in the interior of the Basin, and with our present knowledge but little can be said with regard to them. The

Right to Search is one mile and a half south west of the prolongation of the Spring Hill coal, and lies to the dip.

THE INTERCOLONIAL AREAS.

These consist of two Licenses to work on Blocks 34, and 44 respectively ; one Right of Search on Block 33, and one Right of Search on Block 35.

The Intercolonial Railroad either intersects or passes close to these areas.

The southern portion of these Licenses to work present a very interesting problem. On reference to the plan, it will be seen that the strike of the coal on the Spring Hill Coal Mining Company's area will carry it towards Canada brook, which flows through the eastern portion of one of these Licenses to work. North-westerly of the last exposure of coal on this Company's area, where the dips are high, the rocks spread out and the dips become much reduced. The effect of this structure is to throw the crop of the coal more towards the south west, and towards the Intercolonial areas of the Association. The dips of the rocks on Canada brook and eastward are in conformity with this conjecture.

Canada brook has only been partially explored, the country south of it being an unbroken forest interspersed with barrens without any known rock exposures.

The distance of the north boundary of the License to work, on Block 34, from the St. George mine, is about 120 chains, or a mile and a half.

The seam at the St. George's mine is of a composite character, embracing 7 feet of coal, and 4 feet 1 inch of fire-clay and shale. The dip of this seam would throw it more than 2000 feet below the north boundary of the License to work, on Block 34. Upon the assumption that the Spring Hill seams are of a higher horizon than the Joggins seams, the coal of these seams, in the absence of faults, ought to underlie, at a moderate depth, a part of the area owned by the Association on the Intercolonial. It is, however, probable that a fault of some magnitude runs up the Little Forks river valley which may very materially affect the structure ; hence,

in the absence of further information, it can only be stated that the areas on Blocks 33, 34 and 44, are prospectively valuable, and are well worth a more thorough and systematic exploration than it has been possible to assign to them hitherto. The Right to Search, on Block 35, is, I fear, of comparatively small value. According to observations made this Autumn, the lower rocks, being the prolongation of the Limestone Series, near Spring Hill, come to the surface at Stewart's meadow and continue for some distance in a north-westerly direction. The dips to the south west and to the north east are in opposite directions, showing an anticlinal form. The effect of this anticlinal is seen on Forks river, but it does not appear to extend far beyond that stream.

AREA ON BLOCK 22.

I do not possess sufficient information respecting this area to enable me to express any opinion of its value beyond a supposition that a considerable portion of it lies beyond the limits of the workable seams.

THE BLACK RIVER AREAS.

These consist of three Licenses to work :

One on Block 36,
One on Block 37,
One on Block 40.

And eight Rights of Search :

One on Block 123,
Two on Block 36,
Three on Block 37,
Two on Block 40.

Total—Eleven areas of one square mile each.

The Black River areas may be regarded as belonging to a basin distinct from that of the Spring Hill seams. The seams on the south side of this trough are divided from those of Spring Hill by an anticlinal fold which extends from the head-waters of the Macan, to near the Little Forks river, in a direction almost due north. The lower rocks belonging to the base of the Coal Measures, and the upper part of the lower Carboniferous are brought to the surface on the axis of this anticlinal. It may be merely an island near the rim of the great Cumber-

land coal field, but its effect is to divide the eastern portion of the field into two coal measure troughs.

The southern portion of the Black River trough is closely indicated by the Intercolonial Railroad, between Stewart's Meadow and the point where the Intercolonial crosses the Amherst road. On this curve, as seen in the valley of the west branch of Black River and in the cuttings of the Railroad, the dips point northerly, with considerable uniformity, towards a common centre. On the opposite side of this trough, towards the head waters of the Little Forks river, the dips point southerly.

The diameter of this trough from the seams of coal on Black River to Style's mine, where a coal seam seven feet eight inches thick has been exposed, is about 440 chains, or $5\frac{1}{2}$ miles.*

On the south side of the trough, and on the Association's License to work, in Block 40, several seams of coal have been exposed, the thickness at the crops being from 30 to 32 inches of compact coal.

The details of the following section on Black River were obtained by excavations wherever drift obscured the rock.

The plan of Black River accompanying this report shows all the details of the Section for a distance of three thousand feet at right angles to the strike of the metals.

SECTION ON BLACK RIVER.

Scale 100 feet to one inch. (See plan.)

		Thickness in Feet.
COAL SEAM NO. 1.	No. 1. Band of fine conglomerate	5
	2. Dark purple shale	4
	3. Grey gritty sandrock	6
	4. Hard fine black carbonaceous shale	5
	5. Purple shale alternating with grey sandstone	25
	6. Black shale and coal	1
	7. Greenish arenaceous shales	45
	8. Dark grey nodular sandstone	40
	9. Purplish shaly sandstone	30

* "The most easterly situated opening on these seams is the Styles Mine, which is distant from St. George about 5 miles, and from the Joggins 14 miles. The seam at this mine is 7 feet 8 inches thick, with a band of carbonaceous shale in the middle 6 inches thick; it dips to the south-west at an angle of 40° ."—*"Coal Fields of Nova Scotia."*—Rutherford.

COAL SEAM.	Thickness in feet.
	10. Soft purple grey shales20
	11. Hard purplish grey shale40
	12. Soft blue-black argillaceous shale 5
	13. Dark shaly sandrock25
No. II.	14. Blue-black shale with 3 inches coal 3
	15. Light coloured soft sandrock25
	16. Black carbonaceous shale 3
	17. Light coloured soft sandy shale38
	18. Dark greenish grey sandrock 6
No. III.	19. Black shale with 10 inches coal seam 2
	20. Dark purplish grey shale 8
	21. Grey shaly sandstone10
No. IV.	22. Coal seam—2 in. coal, 12 in. shale, 15 in. coal .. 2 5 inch.
	23. Purple shaly sandrock20
	24. Shale and sandstone12
No. V.	25. Coal Seam 1 6 "
	26. Soft blue-black shale26
	27. Purple grey shale20
	28. Alternating purplish grey shales and grey sandstones, in beds of various thicknesses— } 350 from 5 to 60 feet
No. VI.	29. Coal Seam 0 8 "
	30. Bluish grey shale12
	31. Soft greenish sandstone 8
No. VII.	32. Coal seam 2 6 "
	33. Dark sandy shale 5
	34. Yellowish grey shales25
No. VIII.	35. Shale and coal 1
	36. Yellowish grey shale30
No. IX.	37. One foot coaly shale 1
	38. Greenish grey and variegated shales70

This Section occurs in a horizontal distance of 950 feet; the average dip of the Measures being about 33 degrees northerly.

THE BLACK RIVER TROUGH.

Thin seams of coal have been found on Keevers Brook, 100 chains, or a mile and a quarter, to the eastward of Black River; and to the westward one of the seams has been exposed in a brook about 400 feet from Black River, on the Association's property. The Intercolonial Railway is about a third of a mile from the crop of the thirty inch seam, but on the course of that seam towards the east it would be not more than a quarter of a mile from the crop. The thirty inch seam is of good quality throughout.

V. THICKENING OF THE SEAMS.

The question which now presents itself is, whether, and to what extent the seams thicken, either to the east, or to the west, or to the dip. On the Association's License to work, in Block

40, there is upwards of a mile of the crop of the seam, assuming the absence of faults, of which none are known on the area. To the dip the Association possesses this and the neighbouring seams for about two miles. In other words, two square miles of this group of seams underlie the southern portion of the Association's areas on Black River, the Inter-colonial Railroad passing through them. Hence, it becomes a matter of considerable moment to ascertain whether these seams follow the usual law observable in Cumberland coal, viz: that the seams of coal vary in thickness and quality on their strike. This is notably the case with the Spring Hill seams; and it is so with regard to all the known seams on the north side of the Basin. The seam worked by the Chignecto and the St. George companies is the same; but considerable variations in the thickness of the coal are observable in this seam. Proceeding from west to east the seam has the following thicknesses in a space of 80 chains or one mile:—

1. Total thickness of seam, 13 feet 1 inch.
 " coal in seam 11 " 3 "
2. Total thickness of seam, 12 " 9 "
 " coal in seam 10 " 8 "
3. Total thickness of seam, 11 " 9½ "
 " coal in seam 7 " 8 "

Here we find a seam on the opposite side of the Basin varying in thickness, as far as the coal is concerned, from 11 feet 3 inches to 7 feet 8 inches in a distance of one mile, a difference of 3 feet 7 inches. At Spring Hill, one of the seams increases in thickness from 6 feet 4½ inches to 10 feet 8 inches, in a distance of less than one mile. The celebrated main seam of the Sydney Mines diminishes from 6 feet to 4 feet 6 inches in thickness.

In general it may be stated that all seams of coal vary in thickness, both on the strike and to the dip; and it may be affirmed with confidence that the thirty inch seam on Black River will be found to increase in thickness on the strike, in one direction or another.

Seam No. IV, in the foregoing section of the strata on Black River, consists of

Coal	2
Shale.....	12
Coal.....	1 foot 3 inches

Total....2 feet 5 inches.

Seam No. V. is eighteen inches thick ; and according to experience there is the best ground for the expectation that these seams will increase on the strike either to the east or to the west.

The Association owns about half a mile of this group of seams both to the east and to the west of Black River, where they are exposed, and if they follow the same rule which appears to govern the relative thickness of coal seams at different points on their crop in the Cumberland Basin, it is but a reasonable supposition to conclude that some of these seams will attain important dimensions within the limits of the property. This however can only be ascertained by boring on and near the crop of the seams.

A seam 30 inches in thickness can however be profitably worked, especially under the extremely favourable circumstance presented by the Black River Seams on account of their close proximity to the Intercolonial Railroad ; but in view of the extent of the trough in which these seams are found, the great probability of their thickening to the dip and on the strike, coupled with the fact that the Association possesses the greater portion of the entire trough, it is clear that further explorations either by boring or by surface work are advisable before opening the seam on Black River.

The distance of Black River (Salt Springs) station on the Intercolonial Railroad from Halifax is 114 miles, from St. John 163 miles, from Amherst 24 miles, from Truro 53 miles, and from Parrsboro by the Spring Hill and Parrsboro Railway continuation through to Black River, about 31 miles, but by the Intercolonial and the branch line to Spring Hill 37 miles.

On the north side of the Basin I have traced the rocks associated with the coal seams for about $3\frac{1}{2}$ miles through the Association areas. The rocks are only visible in places on the brooks, but there can be no doubt whatever from observed fact of the continuity of the Basin in that direction.

The 7 foot 8 inches seam at Styles mine is three quarters of a mile to the rise from the Association area on block 36, and about one mile and a half from the area on block 123 on the strike of the strata.

The group of seams commencing at the Joggings shore continues without intermission except by faults to Styles mines, through the following properties :—

	* Thickness of seam including partings.
1. The Joggings.....	6 feet 2 inches.
2. The Victoria.....	5 " 1½ "
3. The Lawrence.....	2 " 6 "
4. The Macan.....	2 ft. 4 in. to 4 ft.
5. The New York and Acadia.....	13 ft. to 1 foot.
6. The Cumberland.....	12 ft. to 9 ft.
7. The Blight Area.....	unknown.
8. The Grant Area.....	unknown.
9. The Styles Area.....	7 feet 8 inches.

Then follows the Association area with the continuity of rocks maintained, such continuity being broken only by faults whose dimensions are tolerably well known. Hence, on the north side of the Black River trough we have the best circumstantial evidence that the seams are continuous. The country has only been explored so far as enables me to state that the rim of the trough passes through the north boundary of the Associations areas, and that the dips are southerly into those areas. Consequently there is every reason to suppose from observed facts that the greater portion of the ten square miles owned by the Association in the Black River trough is underlaid by the seams which have been named ; the Black River group and the Styles' group. That considerable disturbances exist in this trough there can be no doubt, but an inspection of the plan showing the dips sufficiently establishes its leading direction and dimensions.

VI. GENERAL RESULTS.

In summing up the results of the explorations made during the past two seasons, the following conclusions appear to be borne out by the facts observed :—

* For details of the thickness of these seams including partings see official Reports of the Inspector of Mines.

1st. Of the twenty-eight square miles now owned by the Association, twenty-four give promise of being underlaid by coal seams at workable depths.

2nd. In two areas of one square mile each, the coal is probably at a very considerable depth.

3rd. On one square mile the occurrence of the lower Rocks forbids the assumption that coal may be found.

4th. On one square of the Black River areas the existence of coal is doubtful owing to a fault, which, if it pursues the course observed will bring up the lower coal measures, or the lower carboniferous rocks.

5th. The Black River property of ten square miles is a coal measure trough with known seams, and the greater portion of this area may become of great commercial value.

6th. The discovery of the continuations of the Spring Hill seams in the Upper Macan valley, which theory assigns as their true position, would confer great value on at least five square miles of the Association's property in this valley.

HENRY Y. HIND, M. A.

Geologist.

APPENDIX.

DESCRIPTION OF LICENSES TO WORK OWNED BY THE MINERAL EXPLORATION ASSOCIATION.

LITTLE FORKS. (Intercolonial Area.)

(No. 54. Date, April 9th, 1872.)

Beginning at the N.W. angle of James Dill's License to Search, (No. 44) ; thence by the north line thereof, S. 80° , E. 100 chains ; thence, at right angles to said line, S. 10° , W. 64 chains ; thence, N. 80° , W. 100 chains to the west line of Dill's Search ; thence by said west line, N. 10° , E. 64 chains to the place of beginning.

BLACK RIVER.

(No. 55. July 8th, 1872.)

Commencing at a point on the Intercolonial Railway half way between the west and east boundary of mining area No. 40 on the plan in the Mines Department ; thence 40 chains S. 10° W. ; thence N. 80° , W. 80 chains to the west boundary of the same mining area numbered 40 : thence N. 10° , E. 80 chains ; thence S. 80° , E. 80 chains ; thence S. 10° , W. to the place of beginning 40 chains

(No. 57. July 22, 1872.)

Commencing on area 34 at the N. W. corner of Dimock and Wyld's License to work (No. 54) on area No. 44, thence N. 10° E. 32 chains, thence E. 10° S. 200 chains, thence S. 10°

W. 32 chains, thence W. 10° N. 200 chains to the place of beginning.

MACAN RIVER.

(No. 63. Aug. 10, 1872.)

Commencing at the N. W. corner of J. Livesey's License to work on block No. 56 of the Plan in the Mines Department, thence N. 10° E. 64 chains, thence parallel to the north westerly boundary of J. Livesey's license to work 125 chains, thence S. 10° W. 64 chains, thence parallel to J. Livesey's license to work 125 chains to the place of beginning.

SPRING HILL. (Black River.)

(No. 64. August 23rd, 1872.)

Commencing at the north east corner of area No. 36 on the plan in the Mines Department, thence N. 80 W. 135 chains, thence S. 10° W. 47 chains, thence S. 80 E. 135 chains, thence N. 10° E. 47 chains to the place of beginning.

SPRING HILL. (Black River.)

(No. 65. August 23rd, 1872.)

Commencing at the N. W. corner of area No. 37 on the plan in the Mines Department; thence S. 80 E. 135 chains, thence S. 10 W. 47 chains, thence N. 80 W. 135 chains, thence N. 10 E. 47 chains, to the place of beginning.

MACAN RIVER.

(No. 66. August 23rd, 1872.)

Commencing at the North East corner of area No. 65 on the plan in the Mines Department, thence S. 85 W. 120 chains, thence S. 10 W. 53 chains, thence N. 85 E. 120 chains, thence N. 10° E. 53 chains to the place of beginning.

SPRING HILL. (East Brook.)

(No. 67. Sept. 19, 1872.)

Commencing at the S. E. corner of block No. 69, thence N. 10 E. to the S. E. corner of block No. 49 40 chains more

or less, thence N. 80, W. 160 chains, thence S. 10 W. 40 chains, thence S. 80 E. 160 chains to the place of beginning.

SPRING HILL. (East Brook.)

No. 68. Sept. 19th, 1872.)

Commencing at the N. E. corner of block 58, thence S. 10 W. 60 chains, thence N. 80 W. 106 chains, thence N. 10 E. 60 chains, thence S. 80 E. 106 chains to the place of beginning.

*Schedule of Licenses to Search held by the Mineral Exploration
and Mining Association of N. S., showing the dates of the
applications.*

NO. OF BLOCK.		NAME OF APPLICANT.	DATE, 1872.
1.	22	John Browne	Feb. 14.
2.	33	do. do.	Feb. 10.
3.	35	do. do.	Feb. 28.
4.	26	E. W. Dimock, 2nd Right	Aug. 23.
5.	36	E. W. Dimock, 3rd do.	Aug. 23.
6.	37	Dimock & Wylde, 1st	Aug. 23.
7.	37	Dimock & Wylde, 2nd	Aug. 23.
8.	27	Dimock & Wylde, 3rd	Aug. 23.
9.	40	E. W. Dimock, 2nd	July 8.
10.	40	E. W. Dimock, 3rd	July 8.
11.	50	John Browne	April 22.
12.	60	John Browne	Feb. 14.
13.	62	E. W. Dimock, <i>et al.</i>	Aug. 9.
14.	63	E. W. Dimock	Aug. 26.
15.	64	E. W. Dimock	Aug. 26.
16.	64	Dimock & Wylde	Aug. 26.
17.	65	E. W. Dimock, <i>et al.</i>	Aug. 23.
18.	65	Dimock & Wylde	Aug. 23.
19.	123	Dimock & Wylde	Nov. 12.

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